

OVERVIEW OF THE CIVIL WORKS PROCESS

Planning Principles & Procedures - FY 11



US Army Corps of Engineers
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References

- Project Partnership Kit

<http://www.usace.army.mil/cw/cecw-cp/library/ppkit.pdf>

- ER 1105-2-100, Planning Guidance Notebook

<http://www.usace.army.mil/publications/eng-regs/er>

1105-2-100



Objective

- To provide an overview of the Corps' missions
- To be able to identify the major phases of the Corps' Civil Works project development process.



USACE Civil Works Missions

- USACE was created in 1775 to support the Revolutionary War.
 - Civil Works mission began in 1824 with navigation on the Mississippi & Ohio Rivers
 - Missions are defined by Legislative Br. (Congress) and Executive Br. (President)
- Missions Include:
- Navigation
 - Flood Risk Management
 - Ecosystem Restoration
 - Hurricane & Storm Damage Reduction
 - Hydropower
 - Recreation
 - Water Supply





Navigation

Inland and Intracoastal Waterways

- 12,000 miles; 9' – 14'
- 240 Lock Chambers
- 630 million tons annually;
~50% coal & petroleum



Harbors

- 300 major seaports; 2 billion short tons annually; 95% of import/export
- Over 700 small harbors; 600 million tons annually



Flood Risk Management

- 1936 Flood Control Act
- ~ 400 major dams & reservoirs
- 8,500 miles of levees
- Every \$1 invested (\$119B) has prevented \$6 in damages (\$706B)



Ecosystem Restoration

- Objective: Use USACE engineering expertise to restore significant ecosystem resources to less degraded, natural condition.
- Focus: aquatic, riparian and wetland resources
- WRDA 2000 authorized 10 regional / watershed restoration programs; Most significant is Florida's Everglades @ \$7.8 billion
- \$100M invested in small (CAP) projects (e.g., \$1135)



Hurricane & Storm Damage Reduction



- U.S. has 84,240 miles of ocean and Great Lakes shoreline; majority of population lives near coast.

- Focus: Protect public shores and infrastructure; Recreation use is incidental
- 400 miles of coastal structures
- Many small projects (\$14)





Hydropower

- 75 plants (350 units) with 20,720 megawatts capacity (1 MW = 746 HP)

- 24% of U.S's hydropower (3% of total U.S. electric energy)
- Over \$1 billion a year in revenue from power sales
- Regional power marketing by Energy Department





Recreation

- USACE is the largest provider of outdoor recreation in U.S.
- 456 lakes in 43 states
- 4,300 facilities
 - 93,000 campsites
 - 3,500 boat ramps
 - 5,100 trail miles
 - 12M acres
- 400 million visits a year by ~ 25 million people
- Supports 500,000 jobs & \$15B spending



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Water Supply

- USACE includes storage in multipurpose reservoirs

Municipal & Industrial

- 117 projects; 9.5M A-F
- Serve 10M persons in 115 cities in 36 states

Agricultural

- Western States only; managed by BuRec
- 50 projects; 56M A-F (joint use)



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How a USACE CW Project Is Born

- Problem Perception
- Request For Federal Action
- Study Problem & Report Preparation
- Report Review and Approval
- Project Authorization
- Project Implementation



CW Studies & Projects - “It Takes Two to Tango”

- Authorization: Permission and guidance on the conduct of an activity or program. USACE needs separate authorization for a study and project construction.
- Appropriation: Approval to obligate and expend funds for an authorized activity or program. USACE CW projects are funded via annual “Energy & Water Development Appropriations Act”.



Sources Of Study Authority

SPECIFIC STUDY AUTHORITIES

- House Transportation & Infrastructure Cmte. Resolution
- Senate Environment & Public Works Cmte. Resolution
- Water Resources Development Act
- Other Legislation

DELEGATED STANDING AUTHORITIES

- Section 216, 1970 River & Harbor & Flood Control Act

CONTINUING AUTHORITIES (Small Projects)



Phases Of Civil Works Project Development

Specifically Authorized Projects

- Reconnaissance Planning
- Feasibility Planning
- Preconstruction, Engineering & Design (PED)
- Construction
- Operation & Maintenance



Reconnaissance - Planning Phase

REQUIREMENTS {§905(b) WRDA 1986}

- Required before initiation of feasibility study
- Identify potential solutions in sufficient detail to determine whether planning should proceed
- Conduct preliminary analysis of Federal interest, costs, benefits & environmental impacts
- Estimate cost of feasibility phase
- 100 percent Federal funding
- Normally 12; not to exceed 18 months duration

MSC must certify before initiating feasibility



Feasibility - Planning Phase

- Produces the feasibility report which is the vehicle for recommending project authorization.
- Target time is 3 years.

REQUIREMENTS {§905(a) WRDA 1986}

- Describe benefits & detriments of alternatives considered and scope of recommended plan
- Describe Federal & non-Federal participation
- Present views of public, State & Federal agencies
- 50% non-Federal cost {§105 WRDA 1986}; may be in-kind services



Preconstruction, Engineering & Design (PED) Phase

PURPOSE: Complete detailed studies and designs needed to award 1st construction contract.

PRODUCTS INCLUDE:

- Design Documentation Reports (DDR)
- Plans & Specifications (P&S)
- Reevaluation Reports (GRR, LRR, PAC)
- Real Estate Design Memorandums

Part of Project Cost; 25% non-Federal Financing

Construction Phase

PREREQUISITES: Project authorization and appropriation of Federal construction funds.

- Award of 1st construction contract requires Federal and non-Federal appropriations, real estate, and execution of Project Partnership Agreement
- USACE continues design, prepares plans and specifications for subsequent contracts.
- Contractors build the project
- USACE administers contracts, inspects work, oversees safety requirements.
- Sponsor participates; accepts completed work.



(OMRR&R) Operation & Maintenance Phase

- Non-Federal Sponsor responsibility except for navigation projects, dams < WRDA '86.
- USACE conducts periodic inspections and notifies Sponsor of deficiencies.
- Scope is defined in OMRR&R Manual:
 - ▶ Operation - actions required to function
 - ▶ Maintenance - routine & preventative work.
 - ▶ Repair - of minor damage, wear & tear.
 - ▶ Rehabilitation - to assure structural integrity.
 - ▶ Replacement - of obsolete, worn-out features.



Major Legal & Policy Compliance Requirements

- Flood Control & WRDA
 - ▶ 1936 FCA - Benefits exceed costs
 - ▶ 1970 FCA - Significant Effects
 - ▶ 1986 WRDA - Cost sharing
- Laws, Statutes & Executive Orders
 - ▶ National Environmental Policy Act (NEPA)
 - ▶ Clean Water Act (CWA)
 - ▶ Endangered Species Act (ESA)
 - ▶ EO 11988 - Flood Plain Management
- WRC's Principles and Guidelines (P&G)
- USACE, Army & OMB Regulations & Policies



P&G: The Federal Objective

- “The Federal objective of water and related land resources planning is to contribute to National Economic Development (NED) consistent with protecting the Nation’s environment pursuant to national environmental statutes, applicable executive orders, and other Federal requirements.”



USACE Objective for Ecosystem Restoration

- NED does not measure the contributions of ecosystem restoration projects.
- The Corps objective in ecosystem restoration planning is to contribute to National Ecosystem Restoration (NER).
- ER 1105-2-100



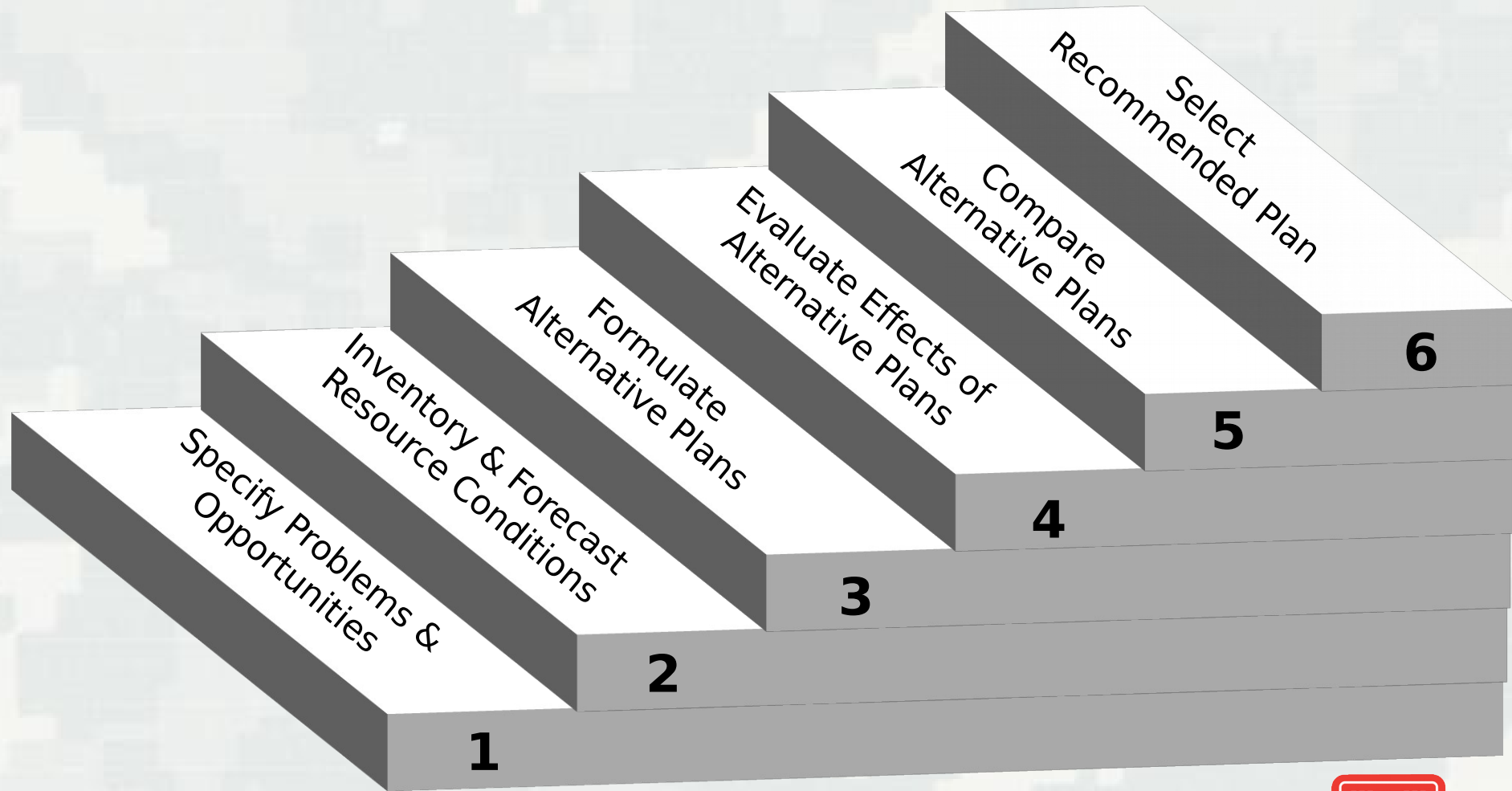
Summary

The Major Phases of Civil Works Project Development are:

- Reconnaissance Planning
- Feasibility Planning
- Preconstruction Engineering & Design (PED)
- Construction
- Operation & Maintenance (OMRR&R)



P&G: Six Step Planning Process



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